WHAT IS CLAIMED IS:

1. A method of identifying agents which modulate the interaction of Robo and a Robo ligand, said method comprising the steps of:

combining a Robo polypeptide, a Slit polypeptide and a candidate agent under conditions whereby, but for the presence of the agent, the Robo and Slit polypeptides engage in a first interaction, wherein the Slit polypeptide specifically binds, activates or inhibits the activation of the Robo polypeptide and

determining a second interaction of the Robo and Slit polypeptides in the presence of the agent,

wherein a difference between the first and second interactions indicates that the aget modulates the interaction of the Robo and Slit polypeptides.

2. A method of modulating the interaction of Robo and a Robo ligand, said method comprising the step of

combining a Robo polypeptide, a Slit polypeptide and a modulator under conditions whereby, but for the presence of the modulator, the Robo and Slit polypeptides engage in a first interaction, wherein the Slit polypeptide specifically binds, activates or inhibits the activation of the Robo polypeptide and

whereby the Robo and Slit polypeptides engage in a second interaction different from the first interaction.

3. A method according to claim 2, wherein the modulator is a dominant negative form of the Robo or Slit polypeptide.
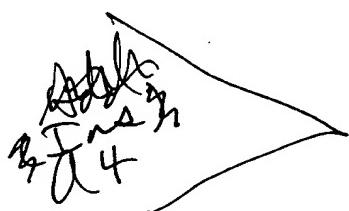
4. An isolated Slit polypeptide comprising a vertebrate species-specific Slit fragment.

5. An isolated vertebrate Slit polypeptide according to claim 4, wherein said vertebrate is human, mouse or rat.

6. A recombinant nucleic acid encoding a vertebrate Slit polypeptide according to claim 4.

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7.   A recombinant Slit nucleic acid comprising a strand of SEQ ID NO:01, or a fragment thereof having at least 24 consecutive nucleotides thereof, and sufficient to specifically hybridize with a polynucleotide having the sequence defined by the corresponding opposite strand of SEQ ID NO:01, and is other than a natural drosophila Slit sequence.

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